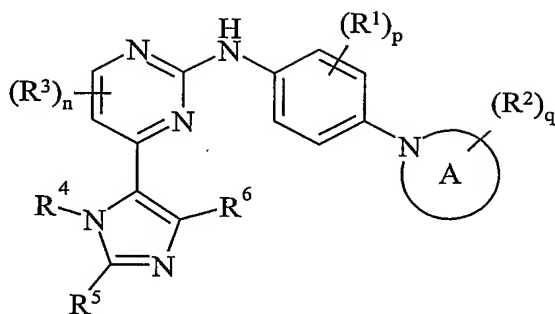


Claims

1. A compound of formula (I):



(I)

wherein:

Ring A is a nitrogen linked 4-7 membered saturated ring which optionally contains an additional nitrogen, oxygen or sulphur atom; wherein if Ring A contains an additional nitrogen atom that nitrogen may be optionally substituted by R⁷;

- 10 **R¹** is halo, nitro, cyano, hydroxy, amino, carboxy, carbamoyl, mercapto, C₁₋₆alkyl, C₁₋₆alkoxy, C₂₋₆alkenyl or C₂₋₆alkynyl;

p is 0-4; wherein the values of R¹ may be the same or different;

- R²** is selected from halo, nitro, cyano, hydroxy, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, azido, sulphamoyl, C₁₋₆alkyl, C₂₋₆alkenyl, C₂₋₆alkynyl, C₁₋₆alkanoyl, 15 *N*-(C₁₋₆alkyl)carbamoyl, *N,N*-(C₁₋₆alkyl)₂carbamoyl, carbocyclyl-R³⁴-, heterocyclyl-R³⁵-, C₁₋₆alkylS(O)_a wherein a is 0 to 2, C₁₋₆alkoxycarbonyl, *N*-(C₁₋₆alkyl)sulphamoyl or *N,N*-(C₁₋₆alkyl)₂sulphamoyl; wherein R² independently may be optionally substituted on carbon by one or more R⁸; or R² is -NHR⁹, -NR¹⁰R¹¹ or -O-R¹²;

q is 0-2; wherein the values of R² maybe the same or different;

- 20 **R³** is halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C₁₋₃alkyl, C₂₋₃alkenyl, C₂₋₃alkynyl, C₁₋₃alkoxy, C₁₋₃alkanoyl, *N*-(C₁₋₃alkyl)amino, *N,N*-(C₁₋₃alkyl)₂amino, C₁₋₃alkanoylamino, *N*-(C₁₋₃alkyl)carbamoyl, *N,N*-(C₁₋₃alkyl)₂carbamoyl, C₁₋₃alkylS(O)_a wherein a is 0 to 2, *N*-(C₁₋₃alkyl)sulphamoyl or *N,N*-(C₁₋₃alkyl)₂sulphamoyl; wherein R³ may be independently 25 optionally substituted on carbon by one or more R¹³;

n is 0 to 2, wherein the values of R³ may be the same or different;

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R^4 is hydrogen, C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, carbocyclyl or a carbon-linked heterocyclyl; wherein R^4 may be optionally substituted on carbon by one or more R^{14} ; and wherein if said heterocyclyl contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from R^{15} ;

5 R^5 and R^6 are independently selected from hydrogen, halo, nitro, cyano, hydroxy, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{1-6} alkoxy, C_{1-6} alkanoyl, C_{1-6} alkanoyloxy, N -(C_{1-6} alkyl)amino, N,N -(C_{1-6} alkyl)₂amino, C_{1-6} alkanoylamino, N -(C_{1-6} alkyl)carbamoyl, N,N -(C_{1-6} alkyl)₂carbamoyl, C_{1-6} alkylS(O)_a wherein a is 0 to 2, C_{1-6} alkoxycarbonyl, 10 N -(C_{1-6} alkyl)sulphamoyl, N,N -(C_{1-6} alkyl)₂sulphamoyl, C_{1-6} alkylsulphonylamino, C_{3-8} cycloalkyl or a 4-7 membered saturated heterocyclic group; wherein R^5 and R^6 independently of each other may be optionally substituted on carbon by one or more R^{16} ; and wherein if a 4-7 membered saturated heterocyclic group contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from R^{17} ;

15 R^7 , R^9 , R^{10} , R^{11} and R^{12} are independently selected from C_{1-6} alkyl, C_{1-6} alkanoyl, C_{1-6} alkylsulphonyl, C_{2-6} alkenylsulphonyl, C_{2-6} alkynylsulphonyl, C_{1-6} alkoxycarbonyl, carbamoyl, N -(C_{1-6} alkyl)carbamoyl, N,N -(C_{1-6} alkyl)carbamoyl, carbocyclyl, heterocyclyl, carbocyclyl- R^{18} - or heterocyclyl- R^{19} -; wherein R^7 , R^9 , R^{10} , R^{11} and R^{12} may be independently optionally substituted on carbon by a group selected from R^{20} ; and wherein if said 20 heterocyclyl contains an -NH- moiety that nitrogen may be optionally substituted by R^{21} ;

R^{14} and R^{20} are independently selected from halo, nitro, cyano, hydroxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{1-6} alkoxy, C_{2-6} alkenyloxy, C_{2-6} alkynyloxy, C_{1-6} alkoxy C_{1-6} alkoxy, C_{1-6} alkoxy C_{1-6} alkoxy C_{1-6} alkoxy, C_{1-6} alkanoyl, C_{1-6} alkanoyloxy, N -(C_{1-6} alkyl)amino, N,N -(C_{1-6} alkyl)₂amino, 25 C_{1-6} alkanoylamino, N -(C_{1-6} alkyl)carbamoyl, N,N -(C_{1-6} alkyl)₂carbamoyl, C_{1-6} alkylS(O)_a wherein a is 0 to 2, C_{1-6} alkoxycarbonyl, N -(C_{1-6} alkyl)sulphamoyl, N,N -(C_{1-6} alkyl)₂sulphamoyl, C_{1-6} alkylsulphonylamino, carbocyclyl, heterocyclyl, carbocyclyl C_{1-6} alkyl- R^{22} -, heterocyclyl C_{1-6} alkyl- R^{23} -, carbocyclyl- R^{24} - or heterocyclyl- R^{25} -; wherein R^{14} and R^{20} may be independently optionally substituted on carbon by one or more 30 R^{26} ; and wherein if said heterocyclyl contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from R^{27} ;

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R^{18} , R^{19} , R^{22} , R^{23} , R^{24} , R^{25} , R^{34} or R^{35} are independently selected from -O-, -N(R^{28})-, -C(O)-, -N(R^{29})C(O)-, -C(O)N(R^{30})-, -S(O)_s-, -SO₂N(R^{31})- or -N(R^{32})SO₂-; wherein R^{28} , R^{29} , R^{30} , R^{31} and R^{32} are independently selected from hydrogen or C₁₋₆alkyl and s is 0-2;

R^{15} , R^{17} , R^{21} and R^{27} are independently selected from C₁₋₆alkyl, C₁₋₆alkanoyl, C₁₋₆alkylsulphonyl, C₁₋₆alkoxycarbonyl, carbamoyl, *N*-(C₁₋₆alkyl)carbamoyl, *N,N*-(C₁₋₆alkyl)₂carbamoyl, benzyl, benzyloxycarbonyl, benzoyl and phenylsulphonyl; wherein R^{15} , R^{17} , R^{21} and R^{27} independently of each other may be optionally substituted on carbon by on or more R^{33} ; and

R^8 , R^{13} , R^{16} , R^{26} and R^{33} are independently selected from halo, nitro, cyano, hydroxy, trifluoromethoxy, trifluoromethyl, amino, carboxy, carbamoyl, mercapto, sulphonamoyl, methyl, ethyl, methoxy, ethoxy, acetyl, acetoxymethyl, methylamino, ethylamino, dimethylamino, diethylamino, *N*-methyl-*N*-ethylamino, acetalamino, *N*-methylcarbamoyl, *N*-ethylcarbamoyl, *N,N*-dimethylcarbamoyl, *N,N*-diethylcarbamoyl, *N*-methyl-*N*-ethylcarbamoyl, methylthio, ethylthio, methylsulphonyl, ethylsulphonyl, mesyl, ethylsulphonyl, methoxycarbonyl, ethoxycarbonyl, *N*-methylsulphonamoyl, *N*-ethylsulphonamoyl, *N,N*-dimethylsulphonamoyl, *N,N*-diethylsulphonamoyl or *N*-methyl-*N*-ethylsulphonamoyl; or a pharmaceutically acceptable salt or an *in vivo* hydrolysable ester thereof.

2. A compound of formula (I) as claimed in claim 1 wherein:

Ring A is a nitrogen linked 4-7 membered saturated ring which optionally contains an additional nitrogen or oxygen atom; wherein if Ring A contains an additional nitrogen atom that nitrogen may be optionally substituted by R^7 ; wherein

R^7 is selected from C₁₋₆alkanoyl, C₁₋₆alkylsulphonyl, C₂₋₆alkenylsulphonyl, carbocyclyl- R^{18} - or heterocyclyl- R^{19} -; wherein R^7 may be independently optionally substituted on carbon by a group selected from R^{20} ; and wherein if said heterocyclyl contains an -NH- moiety that nitrogen may be optionally substituted by R^{21} ;

R^{18} and R^{19} are -C(O)-;

R^{20} is selected from halo, cyano, hydroxy, C₁₋₆alkoxy, C₂₋₆alkynyl, C₁₋₆alkanoyloxy, *N,N*-(C₁₋₆alkyl)₂amino, C₁₋₆alkylS(O)_a wherein a is 2 or heterocyclyl; wherein R^{20} may be optionally substituted on carbon by one or more R^{26} ;

R^{21} is C₁₋₆alkyl; and

R^{26} is hydroxy;

or a pharmaceutically acceptable salt or an *in vivo* hydrolysable ester thereof.

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3. A compound of formula (I) as claimed in either claim 1 or claim 2 wherein R¹ is halo or C₁₋₆alkyl or a pharmaceutically acceptable salt or an *in vivo* hydrolysable ester thereof.

4. A compound pf formula (I) as claimed in any one of claims 1-3 wherein p is 0 or 1 or
5 a pharmaceutically acceptable salt or an *in vivo* hydrolysable ester thereof.

5. A compound pf formula (I) as claimed in any one of claims 1-4 wherein:

R² is selected from hydroxy, amino, azido, C₁₋₆alkyl, *N*-(C₁₋₆alkyl)carbamoyl, *N,N*-(C₁₋₆alkyl)₂carbamoyl, carbocyclyl-R³⁴-, -NHR⁹ or -O-R¹²;

10 R⁹ and R¹² are independently selected from C₁₋₆alkanoyl or C₁₋₆alkylsulphonyl;
wherein R⁹ and R¹² may be independently optionally substituted on carbon by a group
selected from R²⁰;

R²⁰ is hydroxy; and

R³⁴ is -N(R²⁹)C(O)-; wherein R²⁹ is hydrogen;

15 or a pharmaceutically acceptable salt or an *in vivo* hydrolysable ester thereof.

6. A compound pf formula (I) as claimed in any one of claims 1-5 wherein R³ is halo or
a pharmaceutically acceptable salt or an *in vivo* hydrolysable ester thereof.

20 7. A compound pf formula (I) as claimed in any one of claims 1-6 wherein n is 0 or 1 or
a pharmaceutically acceptable salt or an *in vivo* hydrolysable ester thereof.

8. A compound pf formula (I) as claimed in any one of claims 1-7 wherein:

25 R⁴ is C₁₋₆alkyl or carbocyclyl; wherein R⁴ may be optionally substituted on carbon by
one or more R¹⁴; wherein

R¹⁴ is carbocyclyl;

or a pharmaceutically acceptable salt or an *in vivo* hydrolysable ester thereof.

9. A compound of formula (I) as claimed in any one of claims 1-8 wherein:

30 R⁵ and R⁶ are independently selected from hydrogen or C₁₋₆alkyl; wherein R⁵ and R⁶
independently of each other may be optionally substituted on carbon by one or more R¹⁶;
wherein

R¹⁶ is selected from methoxy;

or a pharmaceutically acceptable salt or an *in vivo* hydrolysable ester thereof.

10. A compound of formula (I), as depicted in claim 1, wherein:

Ring A, R² and q together form piperazin-1-yl, morpholino, 4-mesylpiperazin-1-yl, 4-
 5 acetyl piperazin-1-yl, 4-(2-acetoxyacetyl)piperazin-1-yl, 4-(2-hydroxyacetyl)piperazin-1-yl, 4-
 (2-chloroacetyl)piperazin-1-yl, 4-(2-methoxyacetyl)piperazin-1-yl, (3-
 methoxypropanoyl)piperazin-1-yl, (3-hydroxy-3-methylbutanoyl)piperazin-1-yl, (3-hydroxy-
 2,2-dimethylpropanoyl)piperazin-1-yl, ((R)-3-methyl-2-hydroxybutanoyl)piperazin-1-yl, ((S)-
 3-methyl-2-hydroxybutanoyl)piperazin-1-yl, 4-(2-dimethylaminoacetyl)piperazin-1-yl, 4-[2-
 10 (dimethylamino)ethylsulphonyl]piperazin-1-yl, 4-[2-(methoxy)ethylsulphonyl]piperazin-1-yl,
 4-[2-(hydroxy)ethylsulphonyl]piperazin-1-yl, 4-(cyclopropylcarbonyl)piperazin-1-yl, 4-(1-
 hydroxycyclopropylcarbonyl)piperazin-1-yl, 4-(1-cyanocyclopropylcarbonyl)piperazin-1-yl,
 4-(2-hydroxy-2-methylpropanoyl)piperazin-1-yl, 4-((R)-2-hydroxypropanoyl)piperazin-1-yl,
 4-((S)-2-hydroxypropanoyl)piperazin-1-yl, 4-((R)-2-methoxypropanoyl)piperazin-1-yl, 4-
 15 ((S)-2-methoxypropanoyl)piperazin-1-yl, 4-((R)-tetrahydrofuran-2-ylcarbonyl)piperazin-1-yl,
 4-((S)-tetrahydrofuran-2-ylcarbonyl)piperazin-1-yl, 4-(isobutyryl)piperazin-1-yl, 4-((R)-2-
 hydroxybutanoyl)piperazin-1-yl, 4-((S)-2-hydroxybutanoyl)piperazin-1-yl, (R)-3-
 acetylaminopyrrolidin-1-yl, (S)-3-acetylaminopyrrolidin-1-yl, (R)-2-
 (cyclopropylaminocarbonyl)pyrrolidin-1-yl, (R)-2-(*N*-methylcarbamoyl)pyrrolidin-1-yl, (S)-
 20 2-(*N,N*-dimethylcarbamoyl)pyrrolidin-1-yl, 4-(ethenylsulphonyl)piperazin-1-yl, 4-[2-(2-
 propyn-1-yloxy)acetyl]piperazin-1-yl, 4-(tetrahydrofuran-3-ylcarbonyl)piperazin-1-yl, 4-(3-
 dimethylaminopropanoyl)piperazin-1-yl, 4-[2-(*N*-methyl-*N*-
 hydroxymethylamino)acetyl]piperazin-1-yl, 4-[3-hydroxy-2-
 (hydroxymethyl)propanoyl]piperazin-1-yl, 4-[2-(1,2,3,4-tetrazol-1-yl)acetyl]piperazin-1-yl,
 25 4-[2-(1,2,3,4-tetrazol-5-yl)acetyl]piperazin-1-yl, 4-(1-methyl-L-prolyl)piperazin-1-yl, 4-[2-
 (mesyl)acetyl]piperazin-1-yl, 4-(2,2-difluoroacetyl)piperazin-1-yl, 4-[2-(pyrrolidin-1-
 yl)acetyl]piperazin-1-yl, 4-[2-(morpholino)acetyl]piperazin-1-yl, 4-[2-
 (diethylamino)acetyl]piperazin-1-yl, 4-(propionyl)piperazin-1-yl, 4-(3-
 hydroxypropionyl)piperazin-1-yl, 4-[2-(azetidin-1-yl)acetyl]piperazin-1-yl, (R)-3-
 30 aminopyrrolidin-1-yl, (S)-3-aminopyrrolidin-1-yl, (3*R*,5*S*)-4-acetyl-3,5-dimethylpiperazin-1-
 yl, (2*S*,5*R*)-4-acetyl-2,5-dimethylpiperazin-1-yl, (2*RS*,6*SR*)-2,6-dimethylmorpholin-4-
 yl]phenyl, 3-hydroxyazetidin-1-yl, 3-acetylaminoozetidin-1-yl, 3-(2-
 hydroxyacetylaminoozetidin-1-yl, 3-mesyloxyazetidin-1-yl, 3-

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azidoazetidin-1-yl, 3-aminoazetidin-1-yl, (3*R*)-3-{[(2*S*)-2-hydroxypropanoyl]amino}pyrrolidin-1-yl, (3*S*)-3-{[(2*S*)-2-hydroxypropanoyl]amino}pyrrolidin-1-yl, (3*S*)-3-(glycoloylamino)pyrrolidin-1-yl and (3*R*)-3-(glycoloylamino)pyrrolidin-1-yl;

5 R¹ is fluoro, chloro or methyl;

p is 0 or 1;

R² is selected from hydroxy, amino, azido, methyl, *N*-methylcarbamoyl, *N,N*-dimethylcarbamoyl, acetamido, {[(2*S*)-2-hydroxypropanoyl]amino}, glycoloylamino, mesylamino, 2-hydroxyacetamido, mesyloxy or *N*-cyclopropylcarbamoyl.

10 q is 0-2; wherein the values of R² maybe the same or different;

R³ is 5-fluoro or 5-chloro;

n is 0 or 1;

R⁴ is ethyl, isopropyl, isobutyl, cyclobutyl or cyclopropylmethyl;

R⁵ and R⁶ are independently selected from hydrogen, methyl, ethyl, methoxymethyl,

15 propyl;

or a pharmaceutically acceptable salt or an *in vivo* hydrolysable ester thereof.

11. A compound of formula (I), as depicted in claim 1, selected from:

20 2-{4-[4-(2-hydroxyacetyl)piperazin-1-yl]anilino}-4-(1-isopropyl-2-methyl-1*H*-imidazol-5-yl)-5-fluoropyrimidine hydrochloride;

2-{4-[4-(2-hydroxyacetyl)piperazin-1-yl]anilino}-4-(1-isopropyl-2-methyl-1*H*-imidazol-5-yl)pyrimidine;

(2*S*)-1-[4-(4-{[5-fluoro-4-(1-isopropyl-2-methyl-1*H*-imidazol-5-yl)pyrimidin-2-yl]amino}phenyl)piperazin-1-yl]-1-oxopropan-2-ol;

25 2-[4-(morpholino)anilino]-4-(1-isopropyl-2-methyl-1*H*-imidazol-5-yl)-5-fluoropyrimidine
2-{4-[4-(acetyl)piperazin-1-yl]anilino}-4-(1-isopropyl-2-methyl-1*H*-imidazol-5-yl)-5-fluoropyrimidine;

2-[4-(4-acetylpiperazin-1-yl)anilino]-4-(1-isopropyl-2-methyl-1*H*-imidazol-5-yl)pyrimidine;

30 5-fluoro-4-(1-isopropyl-2-methyl-1*H*-imidazol-5-yl)-*N*-{4-[4-(methoxyacetyl)piperazin-1-yl]phenyl}pyrimidin-2-amine;

N-[4-(4-acetylpiperazin-1-yl)-3-fluorophenyl]-5-fluoro-4-(1-isopropyl-2-methyl-1*H*-imidazol-5-yl)pyrimidin-2-amine;

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N-[4-(4-acetylpiperazin-1-yl)-3-fluorophenyl]-4-(1-isopropyl-2-methyl-1*H*-imidazol-5-yl)pyrimidin-2-amine; and

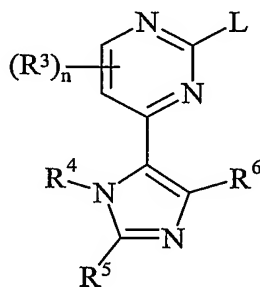
(2*R*)-1-[4-(4-{[5-fluoro-4-(1-isopropyl-2-methyl-1*H*-imidazol-5-yl)pyrimidin-2-yl]amino}phenyl)piperazin-1-yl]-1-oxopropan-2-ol;

5 or a pharmaceutically acceptable salt or an *in vivo* hydrolysable ester thereof.

12. A process for preparing a compound of formula (I), as claimed in any one of claims 1-11, or a pharmaceutically acceptable salt or an *in vivo* hydrolysable ester thereof, which process, wherein variable groups are, unless otherwise specified, as defined claim 1,

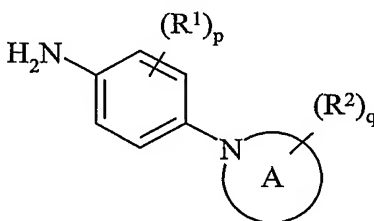
10 comprises of:

Process a) reaction of a pyrimidine of formula (II):



(II)

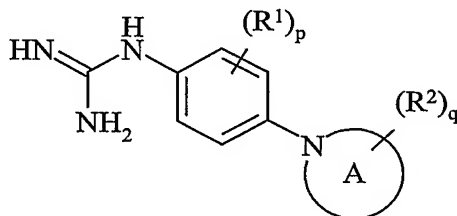
wherein L is a displaceable group; with an aniline of formula (III):



(III)

or

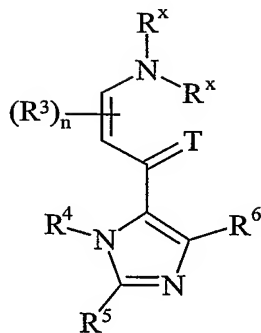
Process b) reacting a compound of formula (IV):



(IV)

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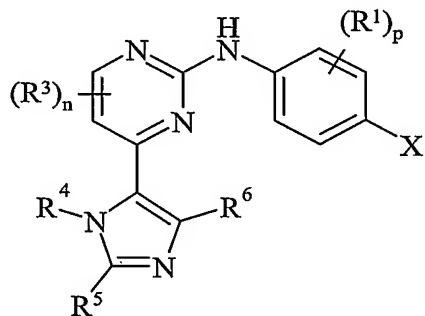
with a compound of formula (V):



(V)

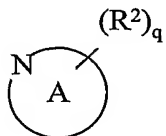
wherein T is O or S; R^x may be the same or different and is selected from C₁₋₆alkyl; or

5 *Process c*) reacting a pyrimidine of formula (VI):



(VI)

wherein X is a displaceable group; with a heterocyclyl of formula (VII):

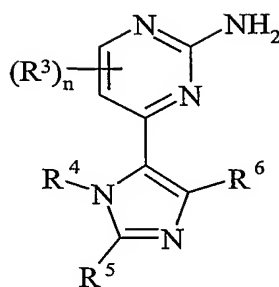


(VII)

or

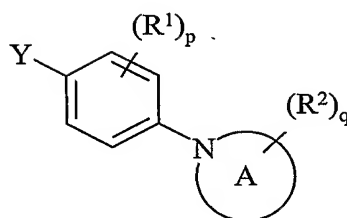
Process d) for compounds of formula (I); reacting a pyrimidine of formula (VIII)

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(VIII)

with a compound of formula (IX):



(IX)

5

where Y is a displaceable group;

and thereafter if necessary:

- i) converting a compound of the formula (I) into another compound of the formula (I);
- ii) removing any protecting groups;
- 10 iii) forming a pharmaceutically acceptable salt or *in vivo* hydrolysable ester.

15

13. A pharmaceutical composition which comprises a compound of formula (I) or a pharmaceutically acceptable salt or *in vivo* hydrolysable ester thereof, as claimed in any one of claims 1-11, in association with a pharmaceutically-acceptable diluent or carrier.

14. A compound of the formula (I), or a pharmaceutically acceptable salt or *in vivo* hydrolysable ester thereof, as claimed in any one of claims 1-11, for use in a method of treatment of the human or animal body by therapy.

20

15. A compound of the formula (I), or a pharmaceutically acceptable salt or *in vivo* hydrolysable ester thereof, as claimed in any one of claims 1-11, for use as a medicament.

16. The use of a compound of the formula (I), or a pharmaceutically acceptable salt or *in vivo* hydrolysable ester thereof, as claimed in any one of claims 1-11, in the manufacture of a

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medicament for use in the production of a cell cycle inhibitory, anti-cell-proliferation, effect in a warm-blooded animal such as man.

17. The use of a compound of the formula (I), or a pharmaceutically acceptable salt or *in vivo* hydrolysable ester thereof, as claimed in any one of claims 1-11, in the manufacture of a medicament for use in the treatment of cancers, solid tumours and leukaemias, fibroproliferative and differentiative disorders, psoriasis, rheumatoid arthritis, Kaposi's sarcoma, haemangioma, acute and chronic nephropathies, atheroma, atherosclerosis, arterial restenosis, autoimmune diseases, acute and chronic inflammation, bone diseases and ocular diseases with retinal vessel proliferation, particularly in the treatment of cancers.

18. The use of a compound of the formula (I), or a pharmaceutically acceptable salt or *in vivo* hydrolysable ester thereof, as claimed in any one of claims 1-11, in the manufacture of a medicament for use in the treatment of cancer.

15

19 The use according to claim 18 wherein said cancer is leukaemia, breast cancer, lung cancer, colon cancer, rectal cancer, stomach cancer, prostate cancer, bladder cancer, cancer of the pancreas, ovarian cancer, liver cancer, kidney cancer, skin cancer and cancer of the vulva.

20 20. The use of a compound of the formula (I), or a pharmaceutically acceptable salt or *in vivo* hydrolysable ester thereof, as claimed in any one of claims 1-11, in the manufacture of a medicament for use in the production of a CDK inhibitory effect.

21. A method for producing a cell cycle inhibitory, anti-cell-proliferation, effect in a warm-blooded animal, such as man, in need of such treatment which comprises administering to said animal an effective amount of a compound of formula (I), as claimed in any one of claims 1-11.

22. A method of treating cancers, solid tumours and leukaemias, fibroproliferative and differentiative disorders, psoriasis, rheumatoid arthritis, Kaposi's sarcoma, haemangioma, acute and chronic nephropathies, atheroma, atherosclerosis, arterial restenosis, autoimmune diseases, acute and chronic inflammation, bone diseases and ocular diseases with retinal vessel proliferation, in a warm-blooded animal, such as man, in need of such treatment which

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comprises administering to said animal an effective amount of a compound of formula (I) or a pharmaceutically acceptable salt or *in vivo* hydrolysable ester thereof, as claimed in any one of claims 1-11.

- 5 23. A method of treating cancer in a warm-blooded animal, such as man, in need of such treatment which comprises administering to said animal an effective amount of a compound of formula (I) or a pharmaceutically acceptable salt or *in vivo* hydrolysable ester thereof, as claimed in any one of claims 1-11.
- 10 24 A method as claimed in claim 23 wherein said cancer is leukaemia, breast cancer, lung cancer, colon cancer, rectal cancer, stomach cancer, prostate cancer, bladder cancer, cancer of the pancreas, ovarian cancer, liver cancer, kidney cancer, skin cancer and cancer of the vulva.
- 15 25. A method of producing a CDK inhibitory effect in a warm-blooded animal, such as man, in need of such treatment which comprises administering to said animal an effective amount of a compound of formula (I) or a pharmaceutically acceptable salt or *in vivo* hydrolysable ester thereof, as claimed in any one of claims 1-11.
- 20 26. A pharmaceutical composition which comprises a compound of the formula (I), or a pharmaceutically acceptable salt or *in vivo* hydrolysable ester thereof, as claimed in any one of claims 1-11, in association with a pharmaceutically-acceptable diluent or carrier for use in the production of a cell cycle inhibitory, anti-cell-proliferation, effect in a warm-blooded animal such as man.
- 25 27. A pharmaceutical composition which comprises a compound of the formula (I), or a pharmaceutically acceptable salt or *in vivo* hydrolysable ester thereof, as claimed in any one of claims 1-11, in association with a pharmaceutically-acceptable diluent or carrier for use in the treatment of cancers, solid tumours and leukaemias, fibroproliferative and differentiative disorders, psoriasis, rheumatoid arthritis, Kaposi's sarcoma, haemangioma, acute and chronic
- 30 nephropathies, atheroma, atherosclerosis, arterial restenosis, autoimmune diseases, acute and chronic inflammation, bone diseases and ocular diseases with retinal vessel proliferation, in a warm-blooded animal such as man.

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28. A pharmaceutical composition which comprises a compound of the formula (I), or a pharmaceutically acceptable salt or *in vivo* hydrolysable ester thereof, as claimed in any one of claims 1-11, in association with a pharmaceutically-acceptable diluent or carrier for use in the treatment of cancer in a warm-blooded animal such as man.

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29 A pharmaceutical composition as claimed in claim 28 wherein said cancer is leukaemia, breast cancer, lung cancer, colon cancer, rectal cancer, stomach cancer, prostate cancer, bladder cancer, cancer of the pancreas, ovarian cancer, liver cancer, kidney cancer, skin cancer and cancer of the vulva.

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30. A pharmaceutical composition which comprises a compound of the formula (I), or a pharmaceutically acceptable salt or *in vivo* hydrolysable ester thereof, as claimed in any one of claims 1-11, in association with a pharmaceutically-acceptable diluent or carrier for use in the production of a CDK inhibitory effect in a warm-blooded animal such as man.

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